

A PROGRAMMABLE LOGIC DEVICE  
WITH TIME-MULTIPLEXED INTERCONNECT

ABSTRACT

A PLD includes at least one portion of the programmable interconnect that can be time multiplexed. The time multiplexed interconnect allows signals to be routed on shared interconnect at different times to different destinations, thereby increasing the functionality of the PLD. Multiple sources can use the same interconnect at different times to send signals to their respective destinations. To ensure proper sharing of the interconnect, the sources can include selection devices (such as multiplexers), and the destinations can include capture devices (such as flip-flops), wherein the selection devices and the capture devices are controlled by the same time multiplexing signal. To optimize the time multiplexing interconnect, as much of the same interconnect is shared as possible.